

CHUSKA ENERGY CO., Black Rock #11  
15-40N-29E SW SW #874

CHUSKA ENERGY CO., Black Rock #11  
15-40N-29E SW SW #874

(over)

*Permit # 874*

STATE: ARIZONA  
COUNTY: APACHE  
API 02-001-20293  
FIELD: BLACK ROCK

40N-29E 15  
SE SW SW  
565 FSL 815 FWL  
STATUS: AB-LOC

OPR: CHUSKA ENERGY

11 BLACK ROCK

ELEV: 6142 GR  
CONTR: NOT RPTD  
PROJ DEPTH/FM: 5914 PARADOX

LOC DESCRIPTION: 7 1/4 MI SW TEEC NOS POS, AZ;  
OPER ADD: 315 N BEHREND, FARMINGTON, NM, 87401 PHONE (505) 326-5525; AMMANN BASE MAP  
AZ-1.

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DATE 11/05/90 CARD # 00001-F COR

*Permit # 874*

STATE: ARIZONA  
COUNTY: APACHE  
IC 20017000393  
FIELD: BLACK ROCK

40N-29E 15  
SE SW SW  
565 FSL 815 FWL  
STATUS: AB-LOC

OPR: CHUSKA ENERGY

11 BLACK ROCK

ELEV: 6142 GR  
(VERTICAL)  
PROJ DEPTH/FM: 5914

LOC DESCRIPTION: 7 1/4 MI SW TEEC NOS POS, AZ; LAT: 3886723 LONG: 10922494;  
OPER ADD: 3315 BLOOMFIELD HWY, FARMINGTON, NM, 87401 PHONE (505) 326-5525;

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DATE 05/02/94 CARD # 00001-F COR

SUNDRY NOTICES AND REPORTS

1. Name of Operator Chuska Energy Company

2. OIL WELL ☐ GAS WELL ☐ OTHER ☐ (Specify) \_\_\_\_\_

3. Well Name Black Rock #9

Location 1530' FNL, 2390' FNL

Sec. 17 Twp. 40N Rge. 29E County Apache, Arizona.

4. Federal, State or Indian Lease Name, or lessor's name if fee lease AZ OIL & GAS CONSERVATION COMMISSION

NOG 8702-1116 Navajo Tribal

JUL 9 1991

5. Field or Pool Name Black Rock Paradox

6. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO		SUBSEQUENT REPORT OF	
TEST WATER SHUT OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT OFF <input type="checkbox"/>	MONTHLY PROGRESS <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	DIRECTIONAL DRILL <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	PERFORATE CASING <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(OTHER) _____	ABANDONMENT <input type="checkbox"/>
(OTHER) <u>Extend APD approval</u> <input checked="" type="checkbox"/>			

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log Form.)

7. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Owing to further evaluation of the prospect and reserves, spud of this well has been delayed. Chuska Energy therefore applies for a six-month extension to the approved APD on this well.

*to 2-1-92*

**APPROVED**

By SL Ranz

Date 7-10-91

ARIZONA STATE OIL & GAS  
CONSERVATION COMMISSION

8. I hereby certify that the foregoing is true and correct.

Signed Christopher S. Hill Title Operations Engineer Date 7-5-91

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
Sundry Notices and Reports on Wells  
File One Copy

Permit No. 00872

Form No. 25

SUNDY NOTICES AND REPORTS

1. Name of Operator Chuska Energy Company
2. OIL WELL ☐ GAS WELL ☐ OTHER ☐ (Specify) \_\_\_\_\_
3. Well Name Black Rock #11  
Location 565' FSL, 815' FWL  
Sec. 15 Twp. 40N Rge. 29E County Apache, Arizona.
4. Federal, State or Indian Lease Name, or lessor's name if fee lease \_\_\_\_\_  
NOG 8702-1116 Navajo Tribal
5. Field or Pool Name Black Rock Paradox
6. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO

SUBSEQUENT REPORT OF

TEST WATER SHUT OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT OFF <input type="checkbox"/>	MONTHLY PROGRESS <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	DIRECTIONAL DRILL <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	PERFORATE CASING <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(OTHER) _____	ABANDONMENT <input type="checkbox"/>
(OTHER) <u>Extend APD approval</u> <input checked="" type="checkbox"/>			

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log Form.)

7. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Owing to further evaluation of the prospect and reserves, spud of this well has been delayed. Chuska Energy therefore applies for a six-month extension to the approved APD on this well.

**AZ OIL & GAS  
CONSERVATION COMMISSION**

JAN 31 1991

**APPROVED**

By Steven L. Rait

Date 2-1-91

**RECEIVED**

JAN 25 1991

DIVISION OF  
OIL, GAS & MINING

8. I hereby certify that the foregoing is true and correct.

Signed Christopher S.W. Hill Title Operations Engineer Date 1-17-91

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
Sundry Notices and Reports on Wells  
File One Copy

Permit No. 00874

Form No. 25

# APPLICATION FOR PERMIT TO DRILL OR RE-ENTER

APPLICATION TO DRILL ☒

RE-ENTER OLD WELL ☐

Chuska Energy Company  
NAME OF COMPANY OR OPERATOR

315 N. Behrend, Farmington, New Mexico 87401  
Address City State

To be determined  
Drilling Contractor

Address

## DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number, or if fee lease, name of lessor <b>NOG 8702-1116</b>	Well number <b>Black Rock 11</b>	Elevation (ground) <b>6142</b>
Nearest distance from proposed location to property or lease line: <b>565</b> feet	Distance from proposed location to nearest drilling, completed or applied--for well on the same lease: <b>3150</b> feet	
Number of acres in lease: <b>50,000</b>	Number of wells on lease, including this well, completed in or drilling to this reservoir: <b>4</b>	
If lease, purchased with one or more wells drilled, from whom purchased: <b>N/A</b>		
Well location (give footage from section lines) <b>565' FSL x 815' FWL</b>	Section--township--range or block and survey <b>Sec. 15, T40N, R29E</b>	Dedication (Comply with Rule 105)
Field and reservoir (if wildcat, so state) <b>Black Rock Paradox</b>	County <b>Apache</b>	
Distance in miles, and direction from nearest town or post office <b>7 miles west-southwest of Teec Nos Pos, Arizona</b>		
Proposed depth: <b>5914</b>	Rotary or cable tools <b>Rotary</b>	Approx. date work will start <b>2-1-1990</b>
Bond Status <u>Pending</u> Amount <b>\$25,000</b>	Organization Report <b>On file</b> Or attached	Filing Fee of \$25.00 <b>Attached</b>

Remarks:  
Well will be drilled to test the Paradox Formation. If the Paradox is productive, the well will TD @ 5596'. If the Paradox is non-productive, the well may be deepened to 5914' for use as a SWD well.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Operations Manager of the Chuska Energy Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Signature Donald S. Barnes

Date 11-14-89

Permit Number: 874  
Approval Date: 2-1-90  
Approved By: [Signature]

Notice: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
Application to Drill or Re-enter  
File Two Copies

Form No. 3

(Complete Reverse Side)

- |       |                  |
|-------|------------------|
| Owner | Land Description |
|       |                  |
- 
- CERTIFICATION**

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

*(Signature)*  
Name Donald S. Barnes

Position Operations Manager

Company Chuska Energy Company

Date 11-14-89

I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.
- |   |
|---|
| Date Surveyed   |
| <u>11-7-89</u>  |
| Registered Professional Engineer and/or Land Surveyor |
| <u>Edgar L. Risenhoover</u>                           |
| Certificate No.<br><u>14207</u>                       |

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement	Type
8 5/8	24	K55	0	500	500	360 sks	Class "G"
5 1/2	15.5	K55	0	5914	5914	710 sks	Class "G"





## PERMIT TO DRILL

This constitutes the permission and authority from the  
OIL AND GAS CONSERVATION COMMISSION,  
STATE OF ARIZONA,

To: DNUSKA ENERGY COMPANY  
(OPERATOR)

to drill a well to be known as

Black Rock No. 11  
(WELL NAME)

located 565' FSL X 815' FWL

Section 15 Township 40N Range 29E, Apache County, Arizona.

The SW 1/4 of said  
Section, Township and Range is dedicated to this well.

Said well is to be drilled substantially as outlined in the attached Application and must be drilled  
in full compliance with all applicable laws, statutes, rules and regulations of the State of Arizona.

Issued this 31st day of January, 1990.

OIL AND GAS CONSERVATION COMMISSION

By David L. Ben  
EXECUTIVE DIRECTOR

PERMIT 00074

RECEIPT NO. 2908

A.P.I. NO. 02-001-20293

State of Arizona  
Oil & Gas Conservation Commission  
Permit to Drill

FORM NO. 27

STATE OF ARIZONA  
OIL AND GAS CONSERVATION COMMISSION  
REQUIREMENTS FOR PROPOSED OPERATIONS

PERMIT NO. 874

Chuska Energy Company  
315 N. Behrend  
Farmington, NM 87401

Phoenix, Arizona  
January 31, 1990

Your proposal to drill well Black Rock No. 11, A.P.I. No. 02-001-20293, Section 15, T.40N, R.29E, G&SR B. & M., Black Rock field, Apache County, dated 11/8/89, received 11/89 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:

1. THIS WELL SHALL NOT BE USED FOR SALT WATER DISPOSAL UNLESS AUTHORIZED BY THE COMMISSION AFTER NOTICE AND HEARING PURSUANT TO RULE 12-7-176.
2. Mud pits are constructed and lined in a manner that will prevent contamination of surface or subsurface waters.
3. Drilling mud consistent with sound drilling practices shall be used at all times and sufficient amounts of lost circulation material shall be available at the drill site.
4. The well shall be cased and cemented in such a manner that will protect all zones that contain oil, gas, or fresh water.
5. Blowout prevention equipment shall be installed, tested, and maintained in a manner necessary to assure well control throughout the drilling, completion, or abandonment of the well.
6. Monitoring for H<sub>2</sub>S shall be continuous from 4000' to T.D. An H<sub>2</sub>S Safety Representative shall be on site for all Drill Stem Tests, cores, trip gas, and circulation of bottoms up.
7. Sundry reports shall be filed as required.
8. Two sets of samples of all cores and cuttings shall be taken at a maximum interval of ten feet. One set each shall be shipped prepaid to:
  - a. Oil & Gas Commission, 5150 N. 16th St., Ste. B141, Phoenix, AZ 85016.
  - b. Arizona Geological Survey, 845 N. Park Ave., Tucson, AZ 85719.
9. Samples and all logs and surveys of any description shall be filed within 30 days after the removal of the rig from the hole.
10. Application to Plug and Abandon (Form 9) shall be submitted to the Commission for approval prior to the beginning of operations to plug the well.
11. THIS COMMISSION SHALL BE NOTIFIED:
  - a. Immediately when drilling operations commence.
  - b. In time to witness the running and cementing of the surface casing.
  - c. In time to witness pressure testing of BOPE prior to drilling out of the surface casing.
  - d. In time to witness plugging and abandonment operations.

To witness operations, call 602-255-5161.

After office hours notify: Steve Rauzi, 602-864-9148 or Dan Brennan, 602-971-2909.

C.D. # 2578904, Valley National Bank

By   
D. J. Brennan, Executive Director

A COPY OF THIS REPORT AND THE PROPOSAL MUST BE POSTED AT THE DRILLER'S STATION PRIOR TO COMMENCING OPERATIONS.

RECORDS FOR WORK DONE UNDER THIS PERMIT ARE DUE WITHIN 30 DAYS AFTER THE WORK HAS BEEN COMPLETED OR THE OPERATIONS HAVE BEEN SUSPENDED.

Form 3160-3  
(November 1983)  
(formerly 9-331C)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPPLICATE\*  
(Other Instr. is on reverse)

Form approved.  
Budget Bureau No. 1004-0136  
Expires August 31, 1985

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL WELL ☐

GAS WELL ☐

OTHER ☐

SINGLE ZONE ☐

MULTIPLE ZONE ☐

2. NAME OF OPERATOR

Chuska Energy Company

3. ADDRESS OF OPERATOR

315 N. Behrend, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

565' FSL x 815' FWL

At proposed prod. zone

Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

7 miles west-southwest of Teec Nos Pos, Arizona

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drilg. unit line, if any)

565'

16. NO. OF ACRES IN LEASE

50,000

17. NO. OF ACRES ASSIGNED TO THIS WELL

160

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

3150'

19. PROPOSED DEPTH

5914'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6142

22. APPROX. DATE WORK WILL START\*

2-1-1990

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8 5/8	24	500	360 sks. (414 cf)
7 7/8	5 1/2	15.5	5914	710 sks (1174 cf)

Well will be drilled to test the Paradox formation. If the Paradox is productive, the well will TD @ 5596'. If the Paradox is non-productive, the well may be deepened to 5914' for use as a SWD well.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

*Donald S. Barnes*  
DONALD S. BARNES

TITLE Operations Manager

DATE 11-14-89

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

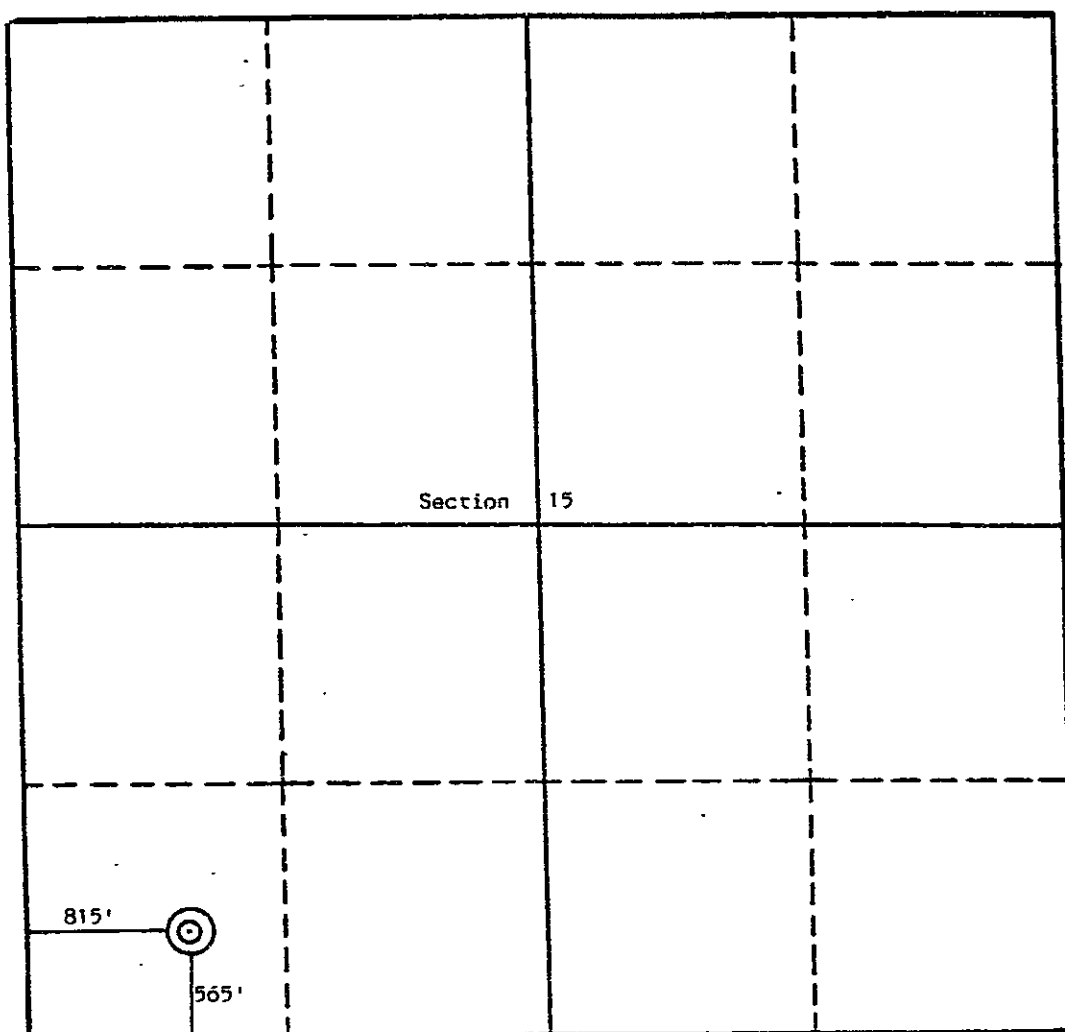
DATE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Company Chuska Energy Company  
Well Name & No. Black Rock #11  
Location 565' F/SL 815' F/WL  
Sec. 15, T. 40 N., R. 29 E., G. & S. R. M., County Apache, Arizona  
Ground Elevation 6142



Scale, 1 inch = 1,000 feet

Surveyed November 7, 1989

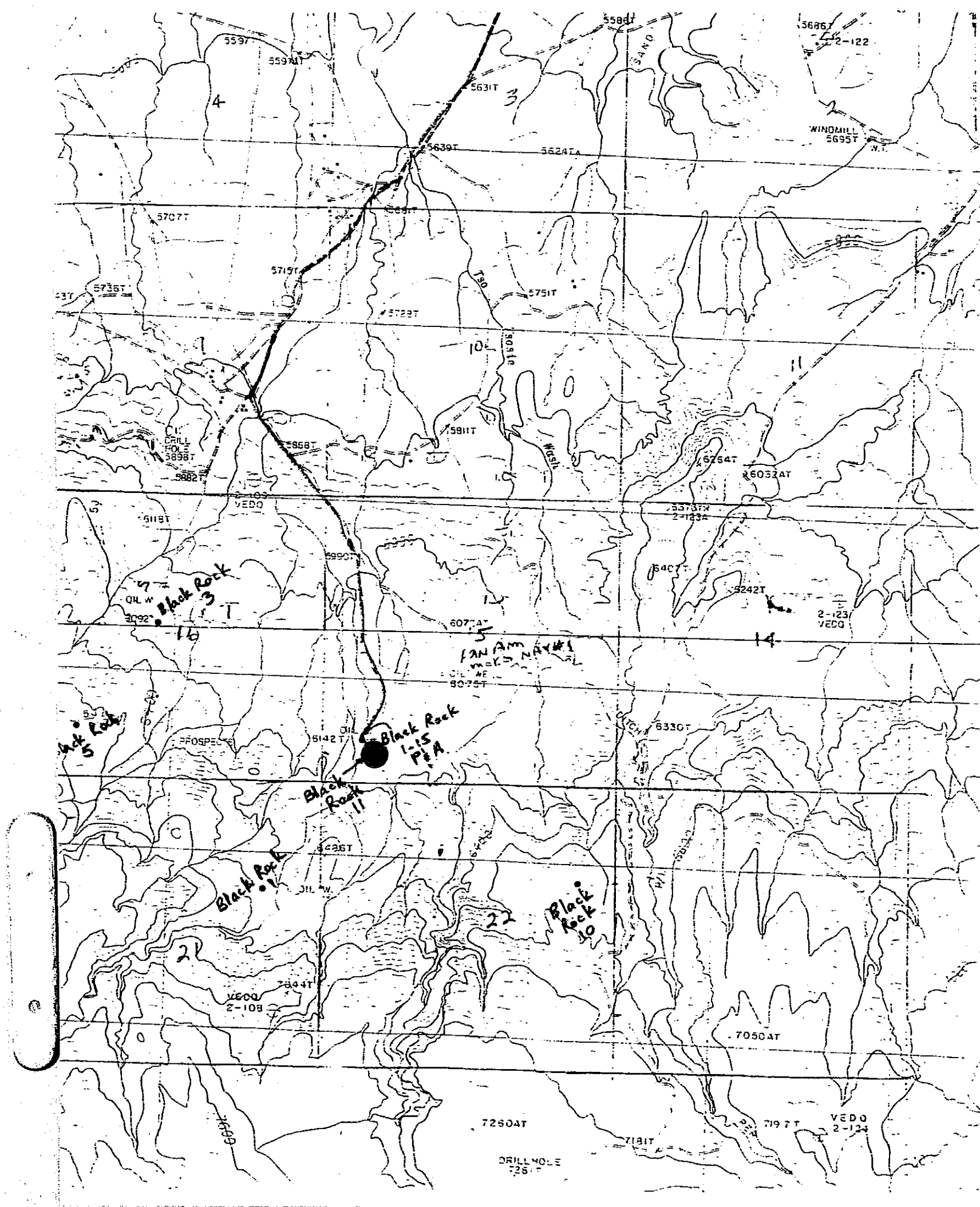
This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

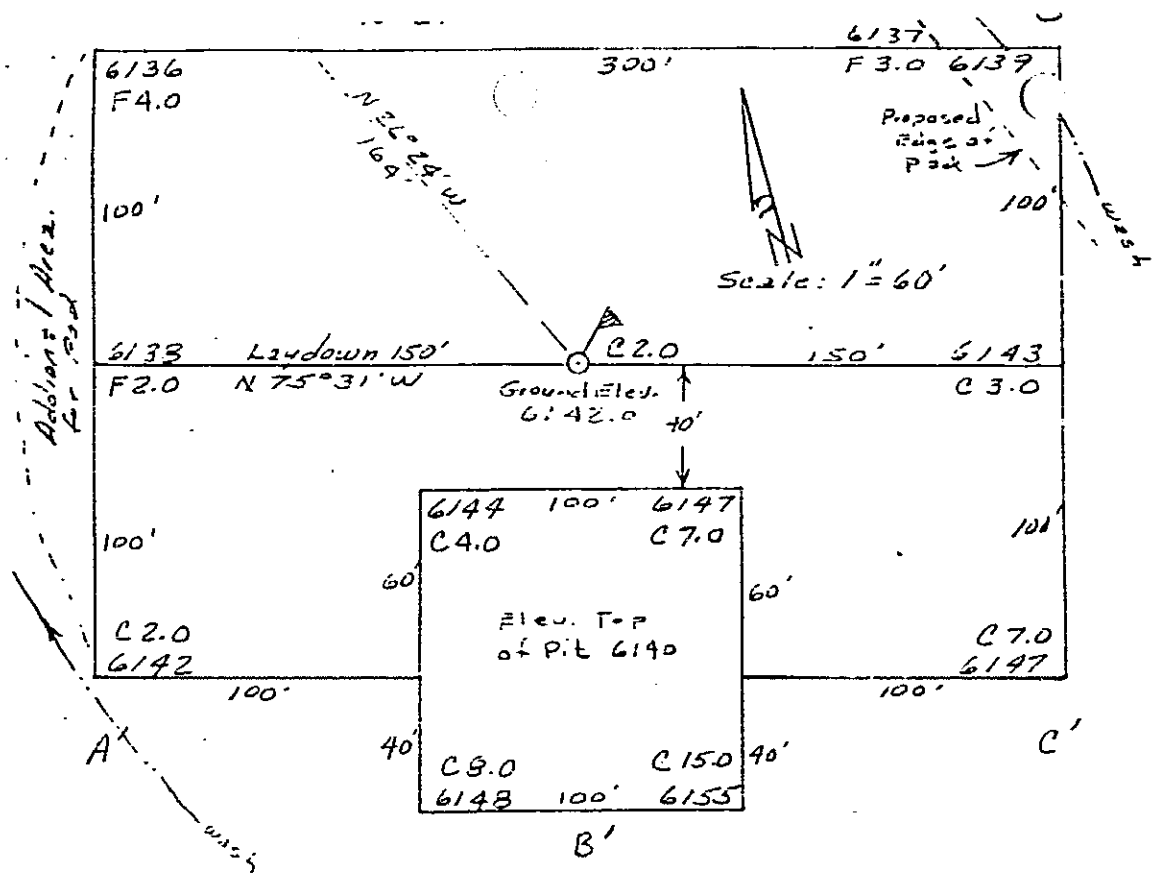
Seal:



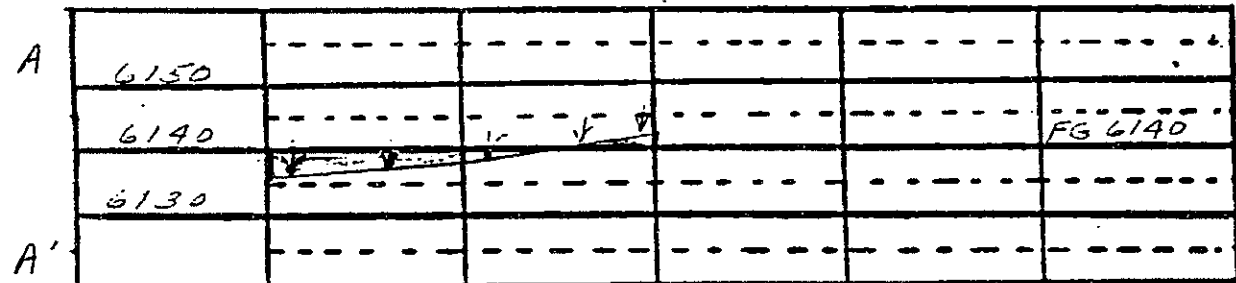
*Edgar L. Risenhoover*

Edgar L. Risenhoover  
Professional Surveyor  
Arizona Reg. No. 14207

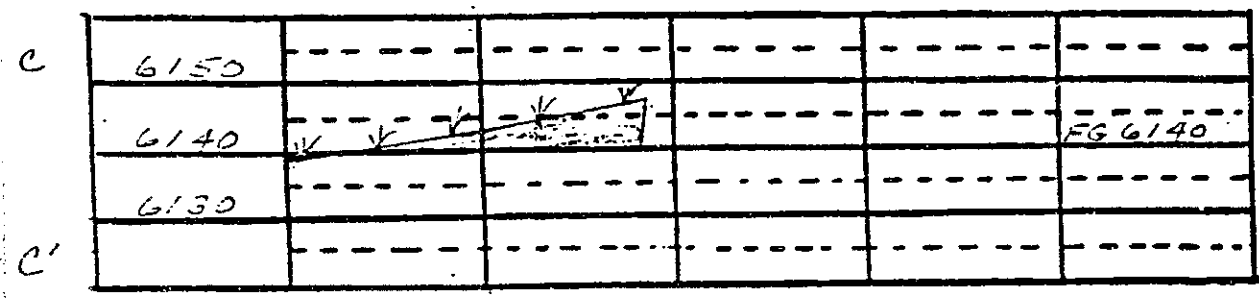
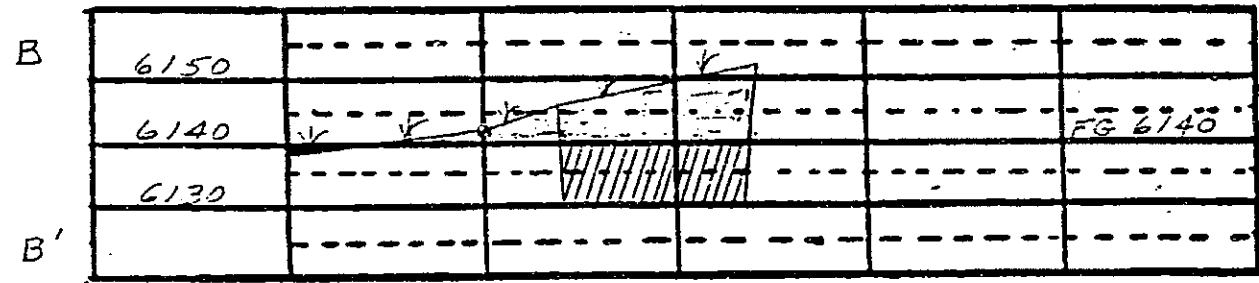




Chuska Energy Company  
**OPERATOR**  
 Black Rock #11  
**WELL NAME & NO.**  
 565' F/SL 815' F/WL  
**FOOTAGES**  
 15 40N 29E  
**SEC. TWP. RGE.**  
 Apache County, AZ  
**COUNTY**  
 November 7, 1989  
**DATE**



Horz. 1" = 100'  
 Vert. 1" = 30'



CHUSKA ENERGY COMPANY

10 POINT DRILLING PLAN

Black Rock WELL NO. 11  
SECTION 15, TOWNSHIP 40N, RANGE 29E  
565' FSL, 815' FWL  
Apache COUNTY, Arizona

1. SURFACE FORMATION

Geological name of surface formation; Morrison.

2. ELEVATION

Surface elevation is 6142' GR, 6156' KB.

3. ESTIMATED FORMATION TOPS

<u>Depth</u>	<u>Formation</u>	<u>Sub Sea</u> <u>Elevation</u>	
Surface	Morrison	+ 6764'	
1429'	Chinle	+ 4727'	
2439'	De Chelly	+ 3717'	water
2807'	Organ Rock	+ 3349'	
3449'	Cutler	+ 2707'	
4169'	Hermosa	+ 1987'	gas
4759'	Ismay	+ 1397'	gas
4819'	Lower Ismay	+ 1337'	gas
4917'	Desert Creek	+ 1239'	gas
5059'	Akah	+ 1097'	gas/water
5216'	Barker Creek	+ 940'	gas
5343'	Pinkerton Trail	+ 813'	gas
5546'	Molas	+ 610'	
5610'	Mississippi	+ 546'	
5765'	Mississippi Dolomite	+ 391'	
5874'	Ouray	+ 282'	
5914'	TD	+ 242'	

NOTE: Well is intended to TD at 5596' (50' +/- into the Molas).  
If the Paradox appears to be unproductive, the well may  
be deepened to TD at 5914' for use as a SWD in the Mississippi  
Dolomite.

4. PROPOSED CASING/CEMENTING PROGRAM

	<u>Depth</u>	<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Coupling</u>
Surface:	500	8 5/8	24.0 ppf	K-55	STC
Production:	5914	5 1/2	15.5 ppf	K-55	STC

Surface Cementing:

360 sks (414 cf), Class 'G' cement with 2% CaCl<sub>2</sub> and 1/4 #/sk celloflake. Weight - 15.6 ppg, yield 1.14 cf/sk. Slurry volume calculated at 100% excess over annular volume.

Production Cementing:

First Stage

TD to 3500' (stage collar @ 3500'). Lead with 240 sks Class 'G' 65/35 poz + 6% gel + .25 #/sk celloflake (12.7 ppg, 1.85 cf/sk), tailed with 100 sks Class 'G' + 2% CaCl<sub>2</sub> (15.6 ppg, 1.15 cf/sk). Total of 559 cf.

Second Stage

3500' to surface. Lead with 270 sks Class 'G' 65/35 poz + 6% gel + .25 #/sk celloflake (12.7 ppg, 1.85 cf/sk), tailed with 100 sks Class 'G' + 2% CaCl<sub>2</sub> (15.6 ppg, 1.15 cf/sk). Total of 615 cf.

Note: Exact slurry volumes for the production string will be adjusted based on the caliper log to be run prior to cementing. Special adjustments may be made to the slurry if significant amounts of salt are drilled.

5. BLOWOUT PREVENTER (See attached schematics)

As abnormal pressure is not anticipated, a 2000 psi BOP system will be sufficient for the drilling of this well. However, due to availability constraints, a 3000 psi system will be used, as per the attached Exhibits "A" and "B". This will be a 10" x 900 Series double ram preventer, equipped with a set of pipe and blind rams.

An accumulator system, with a pressure capacity sufficient to operate the rams three complete cycles without rig power, will be required by the operator.



6. PROPOSED MUD PROGRAM

Surface to 3500'

Fresh water, gel/lime, & native solids. Weight 8.3 - 8.7 ppg, with gel/lime sweeps as necessary to clean hole.

3500' to Total Depth

Low solids - non dispersed polymer system. Weight 8.6 - 8.8 ppg. Sweep with gel/lime sweeps as hole conditions dictate. Fluid loss to be maintained at 15 cc or less. Fluid loss to be further reduced to 10 cc or less prior to drilling the Paradox formation.

7. AUXILIARY EQUIPMENT

- A. A kelly cock will be installed during drilling operations, with handle available on the rig floor.
- B. Floor (stabbing) valves will be available, on the rig floor at all times, with necessary subs to fit all of the drilling assemblies.
- C. Mud will be the circulating fluid. No abnormal formation pressures are expected.

8. WELL EVALUATION

Open hole electric logging program will consist of a minimum program of DLL-MSFL-SP-GR-Cal, FDC-CNL-GR-Lithodensity from TD to 4000'.

Drill stem testing will be as per well site geologist's recommendations, based on shows. A mud logging unit will be utilized during drilling operations from 4000' to TD.

9. ABNORMAL PRESSURES/GAS

Abnormal pressure is not anticipated. Monitoring of gas and hydrocarbon shows will be by wellsite mud logging unit. H<sub>2</sub>S gas is not anticipated, however regular checks will be made while drilling the well.

10. TIMING

The drilling and evaluation of this well is estimated to be 18 days. Anticipated spud date is 2-1-90.

#### DETAILED DRILLING PROGRAM

DATE: November 14, 1989  
WELL NAME: Black Rock WELL NO: 11  
LOCATION: 565' FSL, 815' FWL  
Section 15, Township 40N, Range 29E  
Apache COUNTY, Arizona  
ELEVATION: 6142' GR / 6156' KB  
TOTAL DEPTH: 5914'  
PROJECTED HORIZON: Paradox at 4169'; Mississippian at 5765'

#### DRILLING, CASING AND CEMENTING PROGRAM

1. Move in and rig up rotary tools. Notify BLM of intent to run surface casing and time of spud.
2. Drill mouse hole and rat hole. Mix mud prior to spudding well.
3. Drill 12 1/4" hole to 500'. Use fresh water gel/lime spud mud for drilling surface hole. Well bore inclination is not to exceed 1 degree at 500'. Deviation surveys will be run at 250' and at casing point.
4. Run 8 5/8", 24 ppg, K55, STC casing to TD. Cement with 360 sks (414 cf) of Class 'G' + 2% CaCl<sub>2</sub> + 1/4 #/sk celloflake (sufficient slurry volume to circulate cement to surface).
5. W.O.C. a minimum of 4 hours prior to nipping up BOP stack and related equipment. See BOP schematics for details.
6. Pressure test BOP to 2000 psi for 30 minutes. Pressure test manifold and all related equipment to 2000 psi. Pressure test casing to 1500 psi for 30 min.
7. Drill out of surface casing with 7 7/8" bit. Drill 7 7/8" hole to TD. Deviation surveys are to be taken every 500' or on bit trip whichever occurs first. Maximum allowable deviation will be 5 degrees at TD with the maximum allowable rate of change to be 1 degree/100'.

8. Run open hole logs and evaluate. Drill-stem test as per wellsite geologist's recommendation.

9. If well is determined to be commercial, run 5 1/2", 15.50 ppf, K55 casing to TD. Set stage cementing collar at +/- 3500'. Cement in two stages as follows: Cement first stage with 240 sks of Class 'G' 65/35 poz + 6% gel + .25 #/sk celloflake followed by 100 sks of Class 'G' + 2% CaCl<sub>2</sub> (559 cf). Circulate a minimum of 6 hrs between stages. Cement second stage with 270 sks of Class 'G' 65/35 poz + 6% gel + .25 #/sk celloflake followed by 100 sks of Class 'G' + 2 % CaCl<sub>2</sub> (615 cf).

\*Note: exact slurry volumes will be calculated to circulate cement to surface, from caliper log to be run prior to cementing. Special adjustments may be made to the slurry if significant amounts of salt are drilled.

10. Nipple down BOPE. Set 5 1/2" casing slips, cut off casing. Install well head. Release drilling rig and move rig off location.

11. If well is non-productive it will be plugged and abandoned as per State, BLM, BLM, and Navajo Tribal stipulations.

Black Rock #11  
565' FSL X 815' FWL  
SEC 15, T40N, R29E  
Apache County, Arizona

GENERAL COMPLETION PROCEDURE

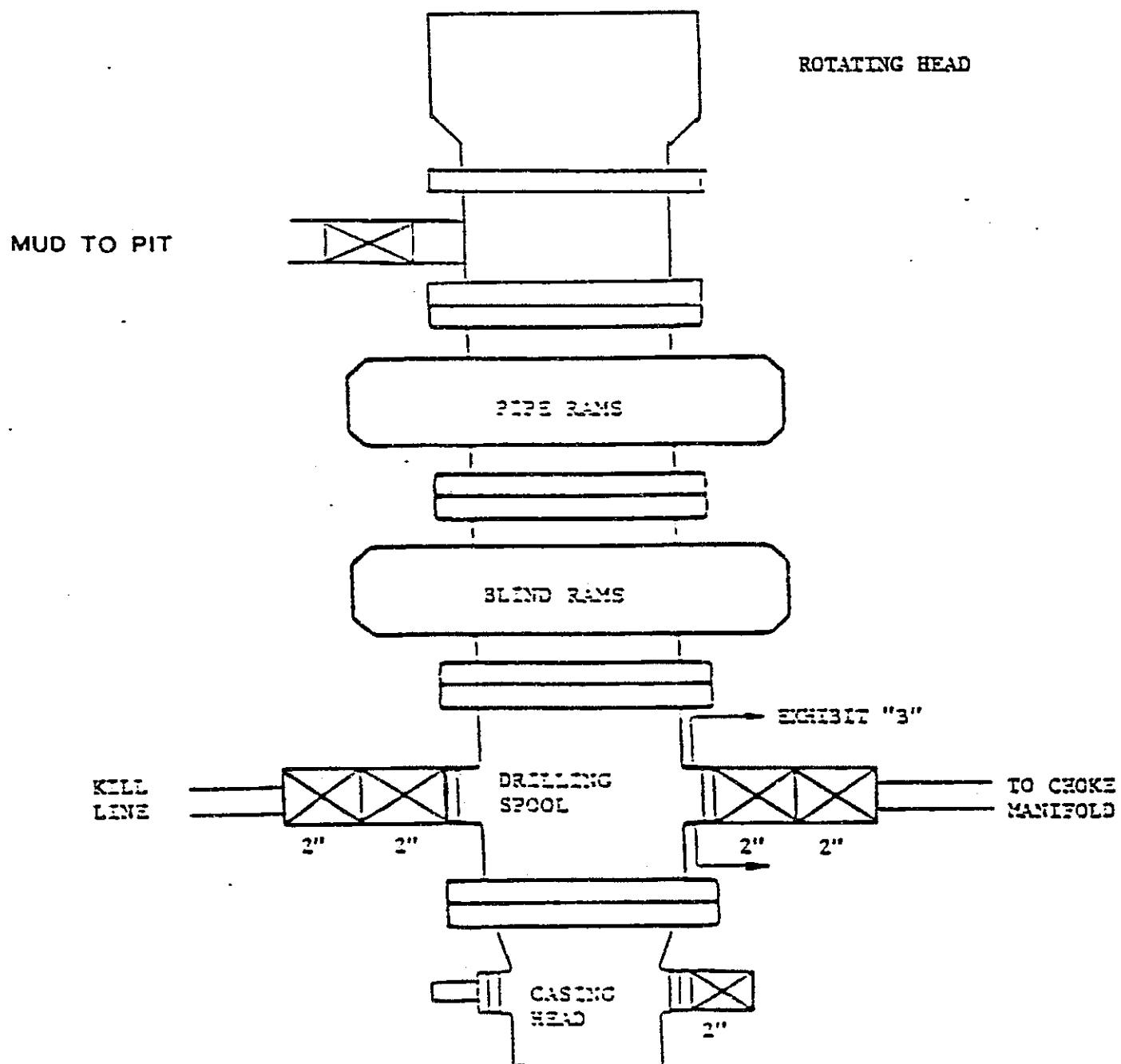
If the well is determined to be productive in the Paradox formation, move in completion rig. Perforate, acidize, and test each productive porosity zone. Completion work will commence after Sundry Notice approval is recieved. Detailed procedures to follow.

PLUGGING AND ABANDONMENT

If the well is determined not to be productive, the well bore will be plugged as per BLM instructions.

CHUSKA ENERGY COMPANY  
BLACK ROCK NO. 11

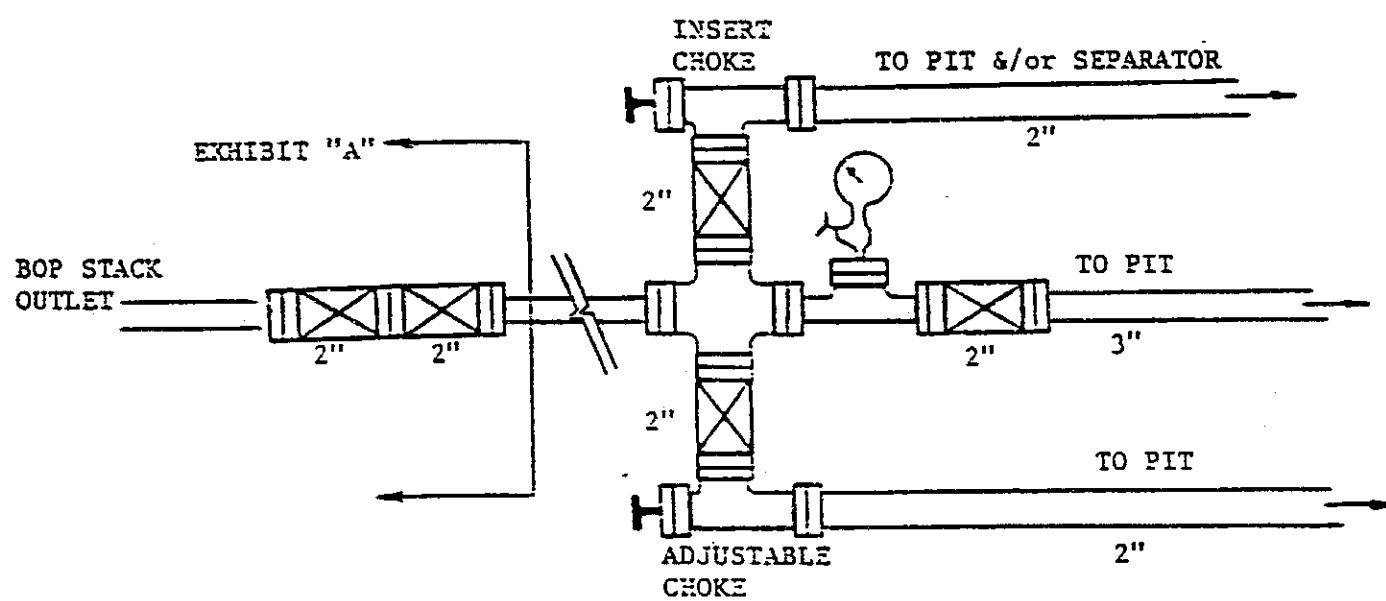
EXHIBIT A  
BLOWOUT PREVENTER



CHUSKA ENERGY COMPANY  
BLACK ROCK NO. 11

EXHIBIT "B"

CHOKE MANIFOLD



Black Rock #11

SURFACE USE PLAN

1. EXISTING ROADS

Shown on the attached topographic map, are the existing roads in the immediate area. Outlined are the roads to be used from Road 5035, 7 miles west of Teec Nos Pos Arizona (exhibit 1). Existing roads will be maintained while operations are in progress.

2. PLANNED ACCESS ROAD (SHOWN IN RED)

The access road as shown on the Topo map will exit from road 3035 and procede through the P&A Black Rock 1-15 location. The road will be flat bladed, constructed 14' in width, and maintained as necessary to prevent excessive damage to the existing terrain. The road will be upgraded if commercial production is established. An estimated 0.20 miles of new road will be constructed to the location pad.

3. LOCATION OF EXISTING WELLS & TANK BATTERIES

The existing wells and facilites are shown on the topographic map.

4. LOCATION OF EXISTING AND PROPOSED FACILITIES

Production facilities will be utilized at the central compressor and production station located in section 8. Glycol pumps and a compressor may be required at a later date and will be installed on the location pad.

5. LOCATION & TYPE OF WATER SUPPLY

Water will be aquired from a private source. The water will be hauled from a flowing well permitted to Hay Hot Oil, Inc., permitted under Water Right 09-1419, A60809.

6. SOURCE OF CONSTRUCTION MATERIALS

The need for additional construction materials is not anticipated. In the event additonal materials are required, they will be aquired from private sources or with the approval of the Navajo Nation.

7. METHODS OF HANDLING WASTE MATERIAL

Trash will be contained on location in an enclosed trash bin. It will be hauled to an approved disposal site or burned on location if a burning permit is granted. The reserve pit will be lined with an approved 7 mil liner for containing drilling fluids. The pit will be fenced. All drilling fluids, cuttings and chemical waste will be stored in the reserve pit. Liquid hydrocarbons will be stored in temporary storage tanks and hauled from location to approved sales facilities. The reserve pit will be emptied, backfilled, and restored to the natural terrain.

8. PORTABLE TOILET

Chemical portable toilet facilities will be provided on location during drilling and completion operations.

9. ANCILLARY FACILITIES

No camps or air strips are planned for this well.

10. WELL SITE LAYOUT

Attached is a surveyor's staking plat, cut and fill requirements and a schematic of the proposed rig layout.

11. PLANS FOR RESTORATION OF THE SURFACE

Top soil removed from the pad, will be stored at the well site. After drilling operations are complete, drilling fluid in the reserve pit will be allowed to evaporate. All remaining fluid in the pit will be disposed of into an approved disposal site. The reserve pit will remain fenced during the evaporation/disposal process. The pit will then be covered and the topsoil will be returned to the disturbed area. The terrain will be returned to its original condition as much as possible. Rehabilitation seeding will be in accordance with the APD/BLM/ BIA stipulations.

12. The location is laid out on an east/west trend requiring 7' of cut on the southeast corner and 4' of fill on the northwest corner. The reserve pit will be built on terrain containing sparse native vegetation. No residents are in the immediate area.

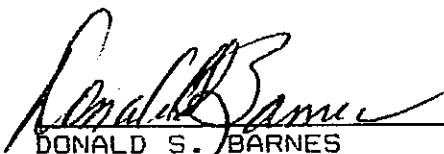


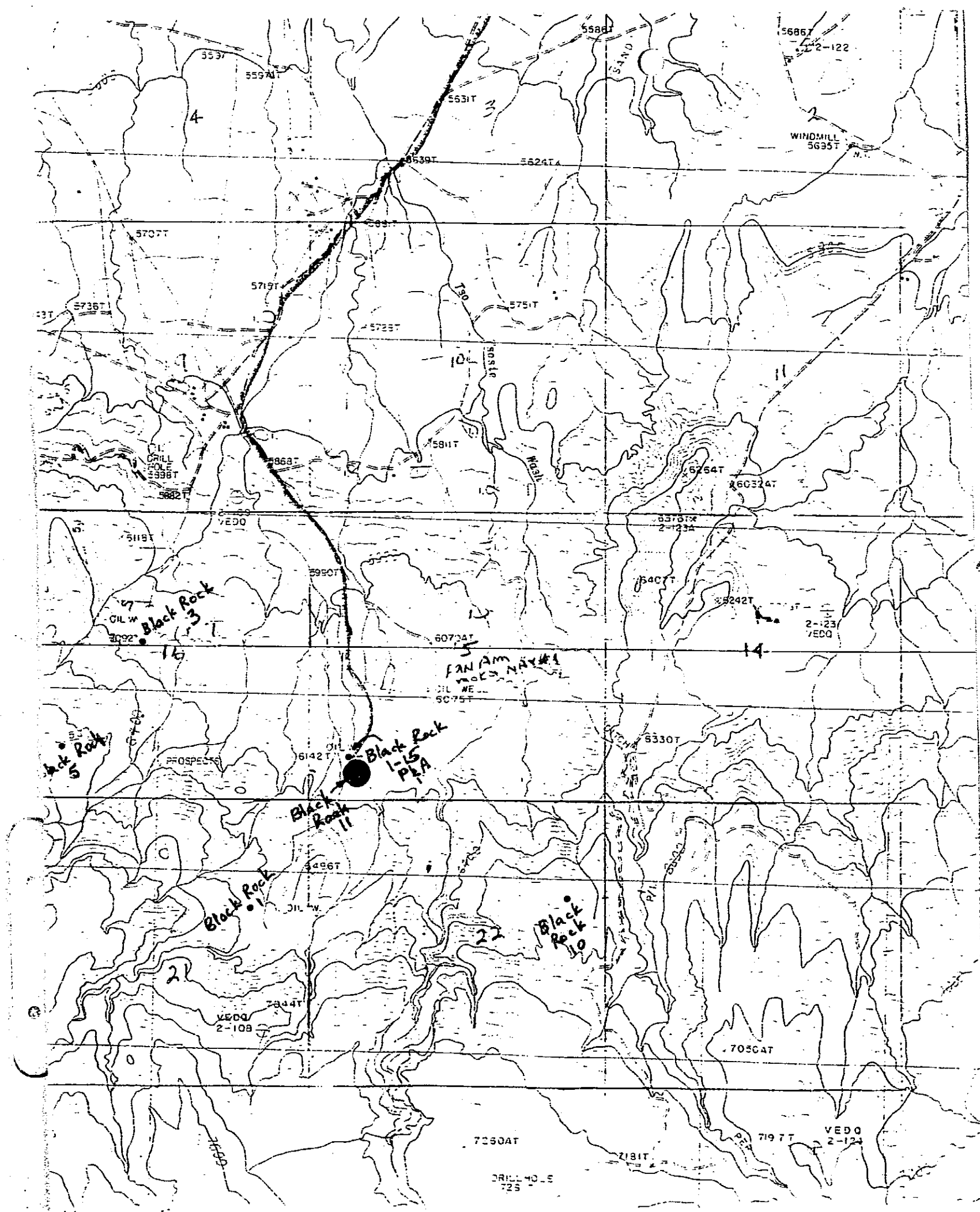
13. OPERATORS REPRESENTATIVE

CHUSKA ENERGY COMPANY  
315 NORTH BREHREND AVENUE  
FARMINGTON, NEW MEXICO 87401  
DONALD S. BARNES

14. CERTIFICATION

I hereby certify that either I, or persons under my direct supervision have inspected the proposed drillsite and access route: that I am familiar with the conditions which presently exist: that the statements made in this plan are, to the best of my knowledge, true and correct, and that the work planned will be performed by Chuska Energy or its sub-contractors, in conformity with the terms and conditions under which it is approved.

  
DONALD S. BARNES  
Operations Manager

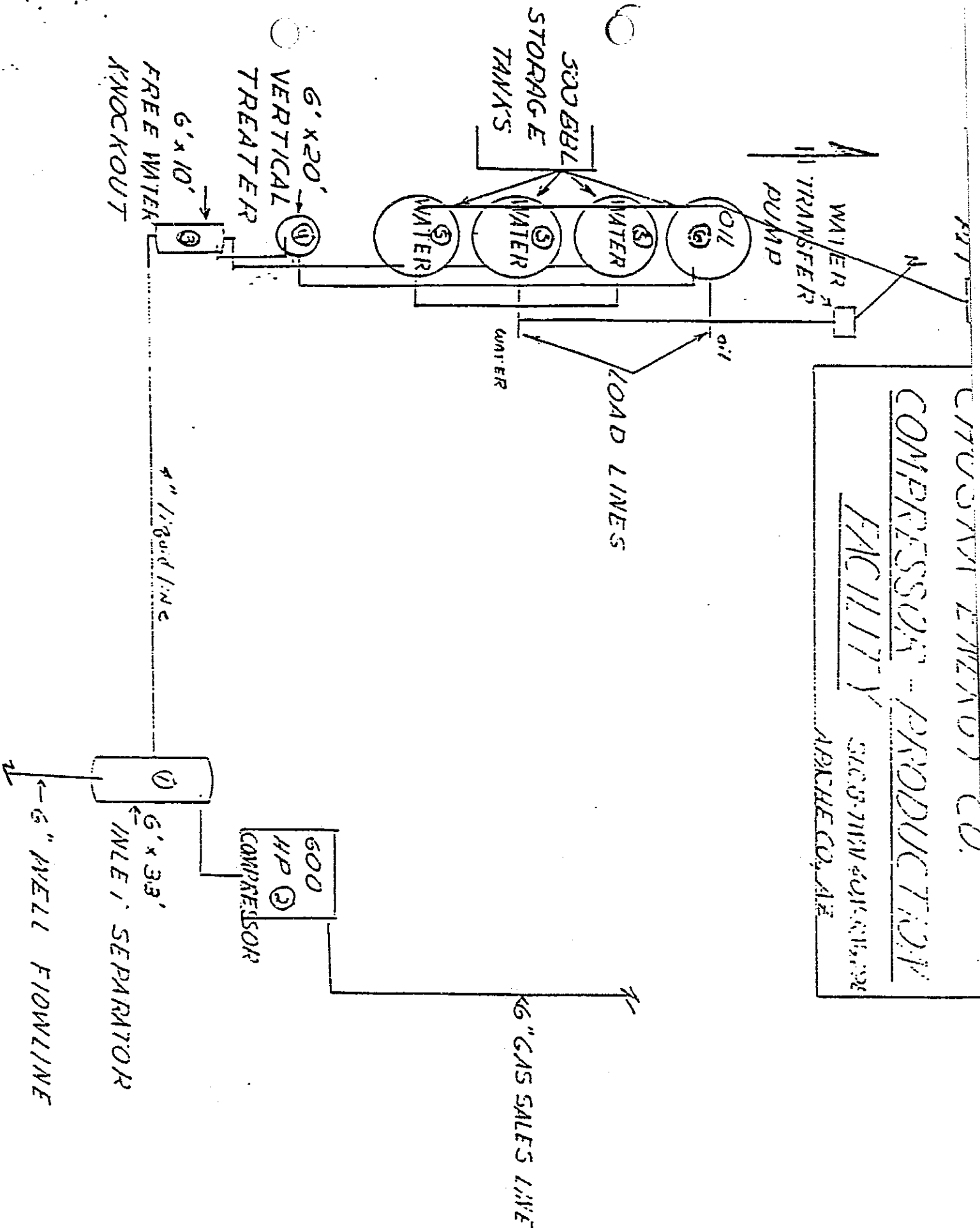


CITICORP ENERGY CO.

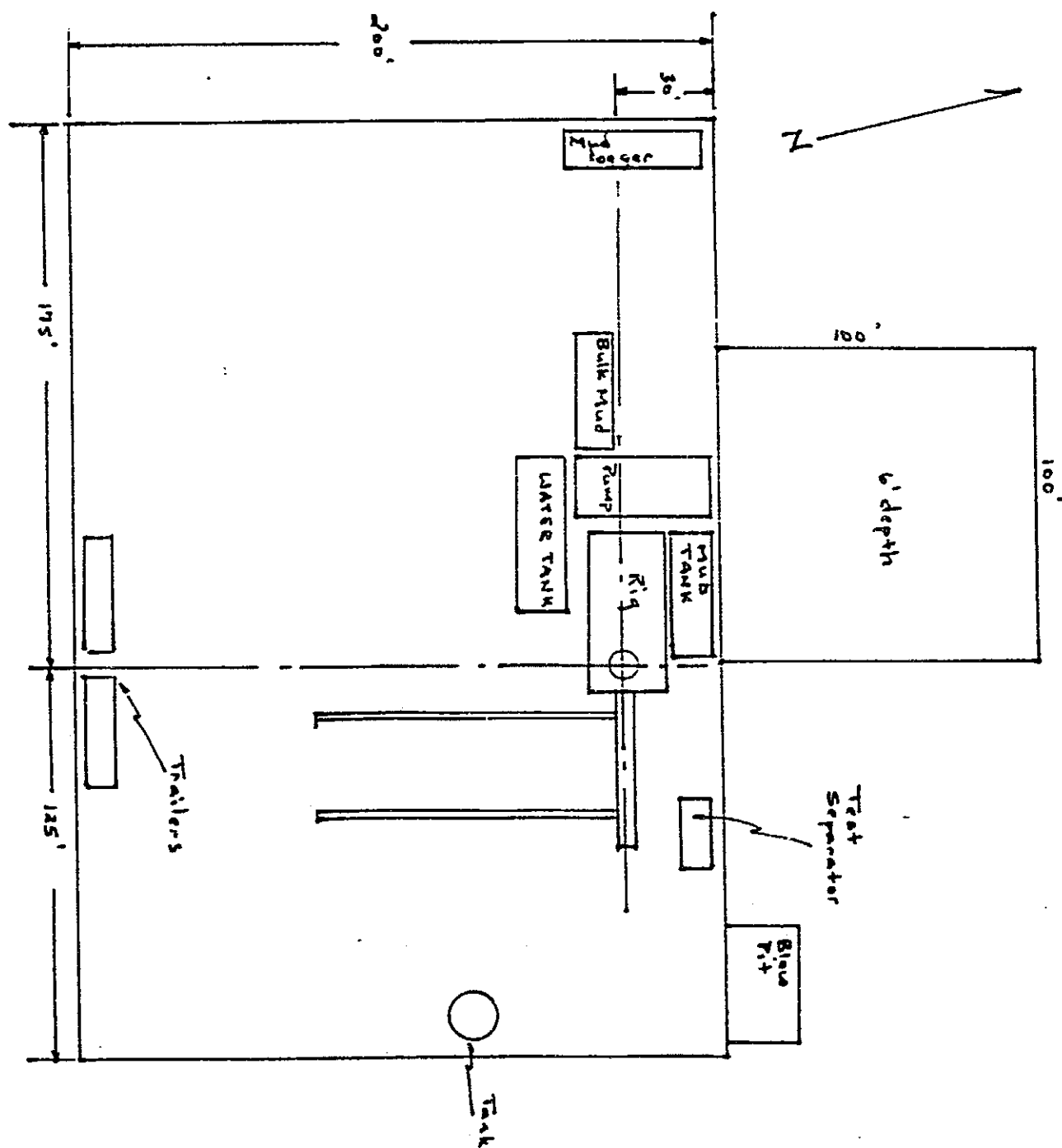
COMPRESSOR - PRODUCTION

FACILITY

SUGAR HILL, ARK.  
ARACHE CO., AR.



CHUSKA ENERGY COMPANY  
BLACK ROCK NO. 11



Operator CHUSKA ENERGY COMPANY

Bond Company VALLEY NATIONAL BANK - ARIZONA Amount \$25,000

Bond No. C.D. #2578904 Date Approved 12/01/89

Permits covered by this bond:

559

581

610 (P & A 11-21-95)

615 (P & A 5/10/91)

868

869 expired

870 (J & A 5/90)

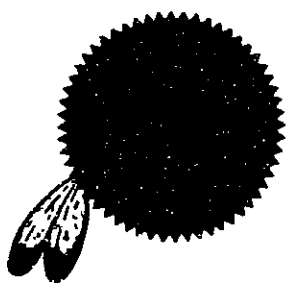
871

872 expired

873 (P & A 8/4/93)

874 expired

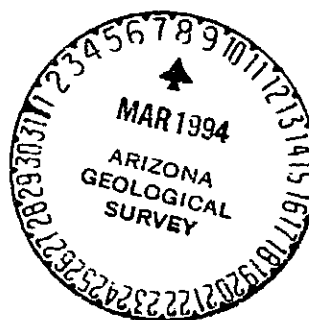
875



## HARKEN SOUTHWEST CORPORATION

(formerly Chuska Energy Company)

March 2, 1994



Mr. Steven Rauzi  
Oil & Gas Program Administrator  
Arizona Geological Survey  
845 Northpark Ave., Suite 100  
Tucson, Arizona 85719

Re: Chuska Energy Company-Arizona Statewide Bond for Drilling of Wells

Dear Mr. Rauzi:

Please be advised that with regard to the above referenced bond we are herewith enclosing documentation relating to a name change. Chuska Energy Company has now changed its name to Harken Southwest Corporation. Copies of the official documentation relating to this change of name are enclosed. We would appreciate the Arizona Geological Survey changing their records to style the above referenced bond as follows:

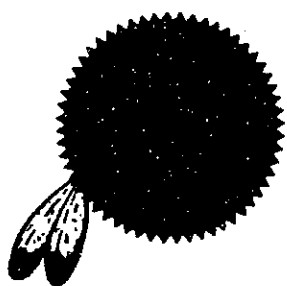
**Harken Southwest Corporation, formerly Chuska Energy Company**

Sincerely

HARKEN SOUTHWEST CORPORATION

Dale Brooks  
Treasurer

DB:le  
Enclosures  
cc:Bruce N. Huff



## HARKEN SOUTHWEST CORPORATION

(formerly Chuska Energy Company)

January 28, 1994

We are pleased to announce that Chuska Energy Company has changed its name to Harken Southwest Corporation. This is in line with the February, 1993 merger with Harken Exploration Company.

Harken Southwest Corporation will continue to be located at 3315 Bloomfield Highway, Farmington, New Mexico 87401. Our telephone number will remain (505) 326-5525.

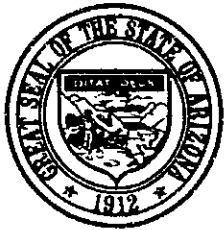
Please reflect this name change on all future correspondence.

Thank you for your assistance in this matter. We look forward to working with you as Harken Southwest Corporation.

Sincerely,

BARRY A. WIELAND  
Operations Manager





Fife Symington  
Governor

State of Arizona  
**Arizona Geological Survey**  
845 North Park Avenue, #100  
Tucson, Arizona 85719  
(602) 882-4795



Larry D. Fellows  
Director and State Geologist

August 4, 1993

Mr. Barry Weiland, Operations Manager  
Chuska Energy Company  
3315 Bloomfield Highway  
Farmington, New Mexico 87401

Re: Renew permits 875 (Black Rock 12), 873 (Black Rock 10), 874 (Black Rock 11), and  
870 (Black Rock 7).

Dear Mr. Weiland:

I have enclosed a receipt for your application fee to renew the referenced permits. These renewals are good for 90 days. Please keep in mind that you may request extensions on any of the permits should you decide to further evaluate production before you continue with your drilling program at the Black Rock Field.

Let me know if I may be of additional assistance.

Sincerely,

Steven L. Rauzi  
Oil & Gas Program Administrator

Enclosure



ARIZONA GEOLOGICAL SURVEY  
845 NORTH PARK AVE., #100  
TUCSON, ARIZONA 85719

**RECEIPT**

Date 8-4 1993 No. **3046**

Received From Chuspa Energy Company

Address Farmington NM

One hundred dollars and no/100 Dollars \$100.00

For Renew permits BR # 7, 10, 11 & 12

ACCOUNT			HOW PAID		
AMT. OF ACCOUNT			CASH		
AMT. PAID			CHECK	<u>100</u>	<u>00</u>
BALANCE DUE			MONEY ORDER		

By Laurette Colton

file 874

### Chuska Adds to Northeastern Arizona Drilling Program

**N**EW DEVELOPMENT drilling has been scheduled by Chuska Energy Co in northeastern Arizona's Black Rock field seven miles southwest of Teec Nos Pos.

The northeastern Apache County venture, the 11 Black Rock in sw sw 15-40n-29e, is set up as a 5914-ft test of Paradox and Mississippian zones. The site is about 110 ft southeast of an abandoned Paradox producer completed by Universal Resources in 1972 on the southeastern flank of Black Rock field at the 1-15 Navajo, also in sw sw 15-40n-29e. Log tops at the abandoned well include Hermosa at 4176 ft, Ismay 4770, Lower Ismay 4824, Desert Creek 4888, Akah 4997, Barker Creek 5144 and Mississippian at 5609 ft. Kelly bushing elevation is 6148 ft.

Chuska's new location is about a mile northwest of a projected 6522-ft exploratory test being drilled by the company at the 10 Black Rock in se ne 21-40n-29e. That site is a mile east of the easternmost producer in Black Rock field (PI 7-26-93).

At last report, Chuska was waiting on completion tools at a 5266-ft Paradox prospect off the northwestern flank of Black Rock field at the 12 Black Rock in nw sw 7-40n-29e. Few details have been released on that venture.

### Meridian Expands Horizontal Drilling Program in Colorado's Rulison Field

**A** HORIZONTAL development test staked by Meridian Oil Inc four miles southwest of Rifle in western Colorado's Piceance Basin will evaluate the Corcoran member of lower Mesaverde.

Meridian will drill the Rulison field test, the 14-26H Juhan, from a surface location 1090 ft from the south line and 1474 ft from the west line (se sw) of 26-6s-94w, Garfield County. The projected bottom-hole location—1866 ft from the north line and 1877 ft from the west line (se nw) of the section—is a little less than half a mile to the north-northeast.

The new venture is a mile and a

half northeast of a horizontal Cozzette (Mesaverde) test completed in January by Meridian and Barrett Resources Corp at the 43-33H Quarter Circle in ne se 33-6s-94w, Garfield County. That well initially flowed 2,099,000 cu ft of gas, 25 bbls of condensate and six bbls of water daily through preperforated liner at 8176-9923 ft in the horizontal leg. Both the 43-33H Quarter Circle and 14-26H Juhan tests are part of a horizontal Mesaverde development joint venture being carried out by Meridian and Barrett on a combined 10,168-acre (net) leasehold in Rulison field (PI 5-7-93).

*(Nevada, continued from Page 1)*

aceous sand section. However, a drill-stem test recovered drilling mud, water and apparently non-commercial amounts of gas. Few other details are immediately available.

Foreland plans to directionally drill another test from the same surface pad toward an indicated updip target on the structure.

The area is three miles northwest of the company's 1988 North Willow Creek field opener, the 1-27 Foreland-Pacific Land in nw se 27-29n-52e, an Indian Well/Chainman producer. Foreland is continuing to pro-

duction-test Tertiary volcanic intervals at a 6900-ft prospect offsetting the discovery, the 5-27 North Willow Creek in se nw 27-29n-52e (PI 6-14-93). The company said it will test the Chainman (Mississippian) sandstone following tests of the Tertiary section. Foreland expects two weeks of additional completion work prior to setting a pump and beginning installation of associated production facilities. The company plans to begin drilling operations at another offset to the North Willow Creek discovery this week.



Fife Symington  
Governor

State of Arizona  
**Arizona Geological Survey**

845 North Park Avenue, #100  
Tucson, Arizona 85719  
(602) 882-4795



Larry D. Fellows  
Director and State Geologist

July 13, 1993

Mr. Barry Weiland, Operations Manager  
Chuska Energy Company  
3315 Bloomfield Highway  
Farmington, New Mexico 87401

Re: Black Rock Field, Apache County, Arizona. Wells #12, #10, #11, and #7

Dear Mr. Weiland:

I am sorry that you were unable to reach me before commencing work on the referenced wells. The phone numbers provided with the State Permits are no longer valid because administrative and staff support for the Oil and Gas Conservation Commission is now handled by the Geological Survey here in Tucson; my office number is listed on the letterhead and my home phone number is 602-881-4850. I have enclosed a couple of my cards showing these phone numbers.

I would appreciate your sending me any updates to the drilling prognoses in our files and a sundry summarizing drilling activity. The prognosis we have for the #12 is dated 4-26-90; for the #10, 11-8-89; for the #11, 11-14-89; and for the #7, 10-6-89. Our records show that #7 was junked and abandoned in May 1990. Are you going to drill the #7 from the original location? If so, what is the new location? I also note that Black Rock #13 and #14 are spotted on the map submitted with the #12 prognosis. Do you plan on permitting these two wells soon?

As we discussed on the phone, I will need at least 48 hours notice to allow me enough time to drive to Farmington to witness the circulation of cement on the surface casing and the pressure test of the BOPE and surface casing. Using rig pumps is satisfactory with the Commission.

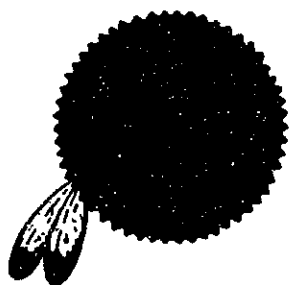
Finally, I have enclosed a few completion reports for your use upon completion of the wells. Any logs run on the wells can be submitted with the completion report. I do look forward to a successful completion on each of these wells and I hope they lead to additional drilling in Arizona. Do not hesitate to contact me if I can provide any information or additional service.

Sincerely,

*Steven L. Rauzi*

Steven L. Rauzi  
Oil & Gas Program Administrator

Enclosures



## CHUSKA ENERGY COMPANY

3315 BLOOMFIELD HIGHWAY • FARMINGTON, NEW MEXICO 87401 • PHONE: (505) 326-5525

AZ OIL & GAS  
CONSERVATION COMMISSION

JUL 9 1991

5 July, 1991

Arizona Oil and Gas Conservation Commission  
5150 North 16th Street, Suite B141  
Phoenix, Arizona 85016

Attn: Daniel J. Brennan

Ref: Sundry Notices: Extensions to APD  
Black Rock #9, #10 and #11

Gentlemen

Attached for your examination and approval are the originals and two copies of the subject Sundry Notices.

Please advise if you require additional information concerning these submissions.

Sincerely,

*Larry G. Sessions*  
Larry G. Sessions  
Operations Manager

LGS/csw  
File: C:\WP51\BLAKROCK\91011EX2.CVR

encl.

874



**Oil and Gas Conservation Commission**  
STATE OF ARIZONA

5150 N. 16th STREET, SUITE B-141  
PHOENIX, ARIZONA 85016  
PHONE: (602) 255-5161

February 1, 1991

Larry G. Sessions  
Operations Manager  
Chuska Energy Company  
3315 Bloomfield Highway  
Farmington, NM 87401

RE: Permit Extension for Black Rock 9, 10, and 11  
Permit Numbers 872, 873, and 874, respectively

Dear Mr. Sessions:

We understand your need to further evaluate the Black Rock Field and its reserves. We therefore approve your request to extend the permits for the referenced wells.

These extensions are good through August 1, 1991.

Sincerely,

A handwritten signature in cursive script, reading "Steven L. Rauzi".

Steven L. Rauzi  
Oil & Gas Specialist



## CHUSKA ENERGY COMPANY

3315 BLOOMFIELD HIGHWAY • FARMINGTON, NEW MEXICO 87401 • PHONE: (505) 326-5525

P.O. BOX 780 • FARMINGTON, NEW MEXICO 87499

January 31, 1991

AZ OIL & GAS  
CONSERVATION COMMISSION

JAN 31 1991

Arizona Oil & Gas Conservation Commission  
5150 North 16th Street, Suite B141  
Phoenix, Arizona 85016

ATTENTION: Daniel J. Brennan

RE: Sundry Notices: Extensions to APD  
Black Rock #9, #10, and #11

Dear Mr. Brennan:

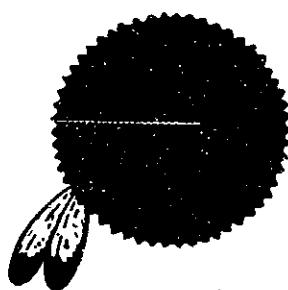
Attached for your examination and approval are the originals and two copies of the subject Sundry Notices.

Please advise if you require additional information concerning these submissions.

Sincerely,

*Larry G. Sessions*  
LARRY G. SESSIONS  
Operations Manager

LGS\csw  
File:LGS\BRK91011



## CHUSKA ENERGY COMPANY

315 N. BEHREND • FARMINGTON, NEW MEXICO 87401 • PHONE: (505) 326-5525

January 18, 1990

Arizona State Oil & Gas Commission  
5150 N. 16th Street, Suite B-141  
Phoenix, Arizona 85016

ATTENTION: Mr. Daniel J. Brennan

Dear Dan,

This letter is in response to our telephone conversation yesterday. I apologize for any inconvenience caused by Chuska or its personnel. I hope that this letter will assist you in making the necessary approvals on our behalf.

You are entirely correct to point out the fact that Hydrogen Sulfide will be present, as this has historically been one of our major concerns. We have trained all of Chuska's field personnel, as well as rig personnel on wells where H<sub>2</sub>S is suspected. Each member of the crew and all of Chuska's operations personnel have been certified in Hydrogen Sulfide operations. We do have monitoring equipment, provided both by the mud logging unit as well as by safety personnel on location during DSTs or other evaluation operations during which gas could occur to surface. A safety company is notified prior to spud and is on call throughout the drilling of the well if needed.

The location of the three wells in question are explained as follows:

### BLACK ROCK #9 #876

This well is planned as a replacement well for the Black Rock #2. The well is located within the mapped section of the Black Rock structure. The surface location is located in a very tight area in which the surrounding topography is very erratic. In addition to the topography, the area is heavy with archaeological artifacts to such a degree that the road to location had to be rerouted to miss three sites alone. The surveyors and field personnel who carried out the staking worked closely with the archaeological field personnel to find the best suitable location for all concerned. To move the location as you suggest would cause excessive damage to the surrounding area, create a greater economic burden, and from a geological point of view, would not provide us with the preferred drilling location.

Chuska controls all of the surrounding acreage in the section and will not be draining other operators' production.

For the reasons stated above, Chuska requests the approval of this permit as submitted.

As you are aware, we are planning to drill more wells in the area, with two more located in section 17, on the upper bench of the Carrizo mountain range.

BLACK ROCK #10 DW 73

The location of this well will be moved 20' and it will be staked 660' FEL. The well is planned to outline the limits of the Black Rock Field and is located on top of a mountain where access roads are already in place.

The location was selected in order to minimize disturbance to the surrounding area. We will restake this location and submit a revised staking plat as soon as possible.

BLACK ROCK #11 #874

The site required for a legal location falls within two forks of an existing wash. The location was moved as close as possible to the existing well bore in order to minimize surface damage. We have reviewed the suggestion to move the surface location. The reason we permitted the well is that we feel that we have sufficient established reserves in the area to justify another drainage point. However, surface pipe historically causes enough problems to deter any attempted re-entry of the old well bore. Considering both the elements and the environment, and in the interests of being a prudent operator, Chuska has elected to drill a new well rather than try to re-enter the existing well bore.

I hope that this letter will help in clarifying Chuska's position and reasons for selection of the three well locations under discussion. As I stated, we are in a time box due to the probability of shutting down for the wild life problems. Please advise if you require additional information. I would appreciate any consideration that you can give as time is of the greatest importance.

Sincerely



Donald S. Barnes  
Operations Manager

CHUSKA ENERGY COMPANY





**Oil and Gas Conservation Commission**

STATE OF ARIZONA

5150 N. 16th STREET, SUITE B-141  
PHOENIX, ARIZONA 85016  
PHONE: (602) 255-5161

January 4, 1990

Mr. Thomas R. McCarthy  
Chuska Energy Company  
315 N. Behrend  
Farmington, NM 87401

Dear Tom:

To confirm our telephone conversation of yesterday, we are holding up approval of the Applications for Permit to Drill for your Black Rock wells Nos. 9, 10, and 11. You have asked for administrative approval of irregular location for these three wells, but have not furnished enough justification for us to proceed.

As we examined the materials relevant to these applications we have made the following notes:

No. 9: Requested location is 2390 FWL and 1530 FNL of Section 15. On the topographic map there appears to be at least as good a potential location approximately 1200 feet WNW, at approximately 1200' FWL and 1000' FNL of the section.

No. 10 is spotted 640 FEL of Section 22. It appears that it could be moved 20' further west to a legal location, or as an alternative about 800' west.

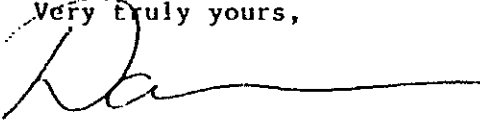
No. 11 is apparently an attempt to use the location of the abandoned Universal Resources 1-15 Navajo. Requested location is 565 FSL and 815' FWL. Again the topographic map appears to show a suitable legal location to the north or northeast.

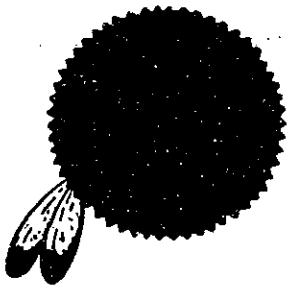
In addition, each of the applications includes a location plat which shows the pit on the north side of the location, while topographic profiles with a different plat show the pits on the south side of the location. Please clear up this inconsistency.

Also each well plan contains a statement that H<sub>2</sub>S is not anticipated. This, of course, is contrary to your experience. Please modify the well plans to provide for H<sub>2</sub>S monitoring equipment from 4000' to total depth.

We are looking forward to hearing from you. Best of luck on your next well.

Very truly yours,

  
Daniel J. Brennan  
Executive Director



## CHUSKA ENERGY COMPANY

315 N. BEHREND • FARMINGTON, NEW MEXICO 87401 • PHONE: (505) 326-5525

AZ OIL & GAS  
CONSERVATION COMMISSION

DEC 21 1989

December 18, 1989

Mr. Daniel J. Brennan  
Arizona Oil and Gas Conservation Commission  
5150 North 16th Street, Suite B141  
Phoenix, Arizona 85016

RE: Black Rock Nos. 5, 6, 7, 8, 9, 10, and 11  
Drilling Permit Applications

Dear Dan:

Pursuant to our conversation on December 15th, I am enclosing a check for \$175.00 for the Applications to Drill the subject wells.

Please advise me if there is additional information or requirements for the approval of the subject APD's.

Sincerely,

Thomas R. McCarthy  
Reservoir Engineer

TRM:bnp  
Enclosure  
File:TRM\DRPERBR



## CHUSKA ENERGY COMPANY

315 N. BEHREND • FARMINGTON, NEW MEXICO 87401 • PHONE: (505) 326-5525

November 28, 1989

Mr. Dan Brennan  
Arizona Oil & Gas Conservation Commission  
5150 N. 16th Street  
Suite B-141  
Phoenix, Arizona 85016

Re: Black Rock No. 11  
Non-standard Location  
Apache County, Arizona

Dear Mr. Brennan:


Please refer to our application for Permit to Drill the Black Rock No. 11 well located 565' FSL & 815' FWL, Section 15, T40N, R29E. As you are aware, this location does not comply with the Black Rock field rules which stipulate that a well be no closer than 660 feet to the 160 acre unit line.

Administrative approval for a non-standard location at the Black Rock No. 9 is requested due to topographic considerations. The well is staked at a location in the quarter section which will have the least amount of environmental impact. No other standard location exists in the quarter section. The staked location is the only one which allows for the reasonable construction of a well pad, road, and pipeline.

Chuska Energy Company owns all acreage contiguous to this 160 acre drilling unit.

Please advise if administrative approval can be granted.

Sincerely,

  
Thomas R. McCarthy,  
Senior Reservoir Engineer

TRM/bc

file:trm\lnonstan.B10